

Appln. No. 09/756,036
Amendment dated March 11, 2005
Reply to Office Action of December 15, 2004

REMARKS/ARGUMENTS

Reconsideration of the present application, as amended, is respectfully requested.

The December 15, 2004 Office Action and the Examiner's comments have been carefully considered. In response, claims are amended and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

ALLOWABLE SUBJECT MATTER

The Examiner's indication that claims 8 and 10 are allowed is acknowledged and appreciated.

CLAIM OBJECTIONS

In the Office Action claims 5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. In response, claims 5 and 7 are not rewritten in independent form in view of the asserted allowability of claim 4 from which claims 5 and 7 depend. Applicants reserve the right to amend claims 5 and 7 to be in independent form if claim 4 is ultimately held to be non-

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patentable.

CLAIM AMENDMENTS

Claims 1-11 are amended to be in better form and to maintain the consistent use of claim terminology. No new matter is added. The amendments to claims 1-11 are not related to the patentability of the claims unless specifically mentioned below in connection with the prior art rejections.

PRIOR ART REJECTIONS

In the Office Action claims 1-4, 9 and 11 are rejected under 35 USC 103(a) as being unpatentable over USP 5,872,807 (Booth et al.). In response, claims 2 and 11 are amended to more clearly define the present claimed invention over the cited reference. Specifically, claim 2 is amended to be dependent on claim 1 and claim 11 is amended to recite that the first spreading clock generator is synchronized with the second spreading clock generator by providing a reset signal to the first and second spreading clock generators. The amendments are supported by the application as originally filed. Therefore, no new matter is added. The amendment of claim 11 is supported at page 41, line 24 - page 42, line 2, inter alia, of the present application.

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In the Office Action the Examiner contends that Booth et al. teach an electronic device that incorporates a spreading clock generating circuit. While Booth et al. do disclose a spreading clock generating circuit and the use of spreading clock signals, Booth et al. do not, however, disclose the problems which occur when the spread clock pulse is incorporated into an image forming apparatus, nor do Booth et al. describe how the spread clock pulse is incorporated into the operation of the image forming apparatus.

With regard to the rejection of claim 1, when a spreading clock signal is used in an image forming apparatus, non-uniformity is easily generated in the writing. Therefore a quality image cannot be attained. In order to overcome this problem, claim 1 recites that the spreading clock signal is used only in a control circuit which is not the writing control circuit in the image forming apparatus. (See page 36, lines 1-14 of the present application). This limitation is not described in Booth et al. That is, Booth et al. do not disclose, teach or suggest an image forming apparatus wherein at least one control circuit of the control circuits other than the writing control circuit is driven by the spreading clock signals, and the writing control circuit is driven by the synchronizing clock signal (see claim 1, lines 14-17).

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None of the other references of record close the gap between the present claimed invention as defined by claim 1 and Booth et al. Therefore, claim 1 is patentable over all of the cited references under 35 USC 102 as well as 35 USC 103.

Claim 2, which is amended to be dependent on claim 1, is patentable over the cited references in view of its dependence on claim 1 and because the references do not disclose, teach or suggest each of the limitations set forth in claim 2.

With regard to the rejection of claim 3, the spreading clock generator can have a detrimental influence upon the image being formed in an image-forming apparatus. To avoid this problem, as recited in claim 3, the spreading clock generator is reset by an index signal. Thus, the same spreading of a band of the reference clock can always be achieved in each line of the main scanning in the image forming apparatus. (See page 39, line 20 through page 40, line 13 of the present application). This limitation is not disclosed in Booth et al. That is, the present claimed invention as defined by claim 3 is patentable over Booth et al. because the reference does not disclose, teach or suggest a resetting section for resetting the spreading clock generator according to the index signal wherein the writing control circuit is driven by the spreading clock signals (see claim 3, lines 15-18).

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None of the other references of record close the gap between the present claimed invention as defined by claim 3 and Booth et al. Therefore, claim 3 is patentable over all of the cited references under 35 USC 102 as well as 35 USC 103.

With regard to the rejection of claim 4, when plural spreading clock generators are used in plural control circuits, the matching of the clock generators cannot be obtained among the control circuits, thereby having a detrimental effect on image formation by the image forming apparatus. To overcome this problem, the present claimed invention as defined by claim 4 recites that the spreading width of each spreading clock signal generated in the spreading clock generators is different from each other. (See page 38, line 3 through page 39, line 19 of the present application). This limitation is not disclosed in Booth et al. That is, claim 4 is patentable over Booth et al. because the reference does not disclose, teach or suggest an image forming apparatus wherein a spreading width of the first spreading clock signals is different from that of the second spreading clock signals (see claim 4, lines 17-18).

None of the other references of record close the gap between the present claimed invention as defined by claim 4 and Booth et al. Therefore, the present claimed invention as defined by claim

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4 is patentable over all of the cited references under 35 USC 102 as well as 35 USC 103.

Claims 5-7 are dependent on claim 4 and are patentable over the cited references in view of their dependence on claim 4 and because the references do not disclose, teach or suggest each of the limitations set forth in claims 5-7.

With regard to the rejection of claim 9, when plural spreading clock generators are used in plural control circuits, matching of the spreading clock generators cannot be obtained among the control circuits in the image forming apparatus. This has a detrimental effect upon image formation. To overcome this problem, claim 9 recites a temporary memory section (buffer) on the middle of the communication line through which the data communication is conducted between each of the control circuits to temporarily store the communicated data. (See page 41, lines 1-15 of the present application). This limitation is not disclosed in Booth et al. That is, claim 9 is patentable over Booth et al. because the reference does not disclose, teach or suggest an image forming apparatus including a temporary memory section provided in the communication line for temporarily storing communicated data (see claim 9, lines 14-15).

None of the other references of record close the gap between the present claimed invention as defined by claim 9 and Booth et

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al. Therefore, claim 9 is patentable over all of the references of record under 35 USC 102 as well as 35 USC 103.

With regard to the rejection of claim 11, when plural spreading clock generators are used with plural control circuits, the matching of the spreading clock generators cannot be obtained among the control circuits in the image forming apparatus. This has a detrimental effect upon image formation. To overcome this problem, claim 11 recites providing a reset signal to each of the spreading clock generators which are to be synchronized. (See page 41, line 16 through page 42, line 6 of the present application). This limitation is not disclosed in Booth et al. That is, the present claimed invention as defined by claim 11 is patentable over Booth et al. because the reference does not disclose, teach or suggest an image forming apparatus wherein the first spreading clock generator is synchronized with the second spreading clock generator by providing a reset signal to the first and second spreading clock generators (see claim 11, lines 17-19).

None of the other references of record close the gap between the present claimed invention as defined by claim 11 and Booth et al. Therefore, claim 11 is patentable over all of the references of record under 35 USC 102 as well as 35 USC 103.

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In view of all of the foregoing, claims 1-7, 9 and 11 are patentable over the cited references. Allowance of this application with claims 1-11 is respectfully requested.

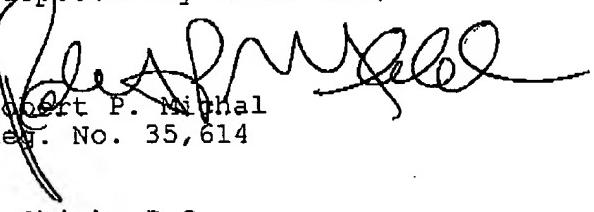
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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,


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